

UNITED STATES PATENT OFFICE.

ARISTIDE DUBREUIL, OF BALTIMORE, MARYLAND.

IMPROVED PROCESS FOR DISTILLING PETROLEUM.

Specification forming part of Letters Patent No. 51,156, dated November 28, 1865.

To all whom it may concern:

Be it known that I, ARISTIDE DUBREUIL, a citizen of France, but now and for many years residing in the city of Baltimore and State of Maryland, have invented a new and useful Process for Distilling Petroleum or Rock Oil by the improved apparatus heretofore described in the patent issued to me upon the 20th day of June, 1865, No. 48,265. I intend this as an improvement upon that patent and dependent thereon, and for this reason I refer to the drawings and specifications filed in that case, and to all intents and purposes incorporate them as filed in this case as the drawings, plans, and specifications for this patent.

The patent above referred to covers only the use of boiling water in the boiler inside the retort or still, to vaporize the material. By my improved process I use heavy petroleum, tar of petroleum grease, and other substances, as hereinafter set out, which are converted into vapor at a degree of heat much higher than that required to vaporize water.

Practical experience shows that to generate and convey to the material in bulk in the retort sufficient heat from boiling water to pass the material off in vapor requires such a degree of heat in the boiler as to make the operation somewhat dangerous in the hands of inexperienced and unscientific men, though perfectly safe in the hands of an experienced engineer. My improved process obviates this difficulty and renders the operation perfectly simple and safe in the hands of inexperienced workmen.

In place of using water in the boiler or vessel inside the retort or still and in contact with the material, I introduce heavy petroleum, tar of petroleum, grease, mineral or vegetable oils, metals fusible at low temperatures, or any other substance which will be converted into vapor at a higher degree of temperature than water.

The advantage which this improved process offers, as will be seen at a glance, consists in enabling the operator to arrive at a high degree of heat without any considerable pressure upon the boiler.

To enable others skilled in the art to make and use my improved process I will proceed to describe its operation.

The still or retort, with its boiler-connec-

tions, I construct in all respects as described in my original Patent No. 48,265, issued 20th June, 1865, upon which patent this is claimed as an improvement.

The operation is as follows: The still or retort is filled with petroleum, leaving space, however, for the expansion of the material, and the man-hole is fastened down. The boiler, being then supplied with any substance which will vaporize, but at a degree of temperature higher than that required to vaporize water, is heated from the furnace to the required degree of temperature, and communicates its heat to the surrounding material. The exact degree of heat required to vaporize the material is thus attained and kept constantly under control, free from any danger of too great a pressure upon the boiler.

In using any of the oils or petroleum-tar I provide an escape for any gas that may be generated in the boiler and utilize this gas by conducting it into the furnace under the boiler end.

In using any of the metals I allow an escape for any excess of vapor, and, passing this escape-pipe through or into a cooler, I make no loss of metal.

The working results of this process are the same as those claimed in the original patent covering and describing the apparatus hereinbefore referred to.

This process I do not claim as new, except in its application to the distillation of petroleum or rock-oil.

I do not claim in this application any of the principles or forms of the apparatus described or set out in the Patent No. 48,265, issued to me 20th June, 1865; but

What I do claim as new, and desire to secure by Letters Patent, is—

The use of heavy petroleum, tar of petroleum, mineral or vegetable oils, grease, metals easily fusible, or any other substance within the boiler, inside the retort or still, to vaporize the material known as petroleum or rock-oil, substantially in the manner and for the purposes hereinbefore shown and described.

ARISTIDE DUBREUIL.

In presence of—
E. R. SPRAGUE,
S. C. LONG.